

5

tion as the edges of the pipes 10 give a strong radial impulse, driven by the rotation of the outer cover 5.

As can be seen, for some paths 7a, 7b, the deflection of the oil onto the walls of the pipes 10 may not be enough to direct said oil towards the bottom wall 12 of the gutter 13. In this case, it is the side walls 11 that intercept the oil and send it back towards the bottom wall 12. The sloping shape of the walls 11 may also have an additional function, not shown in the drawing, of capturing the splashes from oil streams directly hitting the bottom wall 12 of the gutter 13.

Thus, with the tangential impulse caused by the rotation of the cover 5, a rotating ring of oil can be formed against the bottom wall 12 of the gutter 13. The oil is therefore channelled and pressed firmly against the bottom wall 12 of the gutter 13 by centrifugal force. With reference to FIGS. 3a and 4a, this allows the oil to be recovered by placing a discharge port 14 in the lowest point of the bottom wall 12.

With reference to FIG. 2, said rotational effect of the oil ring can be improved by sloping the pipes 10 in the direction of rotation  $\omega$  of the cover 5 when the PGB is operating relative to the radius in the transverse plane P.

With reference to FIGS. 3a and 4a, a port 14 is placed in the bottom wall 12 of the gutter and communicates with a recovery channel 15, which itself communicates with a pump, not shown, to drive the recovered oil. Said channel 15 forms, together with the pump, a means of discharging the recovered oil into the gutter 13.

Taking the example of the PGB 1 in a contra-rotating turboprop engine, the axis of rotation A of the PGB 1, which corresponds to that of the turboprop engine, is generally substantially horizontal. The recovery port 14 is therefore located in the bottom portion of the gutter 13 so that the oil can flow thereto by means of gravity, in particular when the turboprop engine stops. Using the analogy of the dial of a clock, the port 14 can be said to be located at six o'clock around the axis A. The location of the discharge port 14 allows said port to have a general shape that forces the discharge of the oil and thus prevents the oil from accumulating and forming a ring.

Furthermore, with reference to FIGS. 3b and 4b, the enclosure generally contains other devices, not shown, such as bearings for guiding shafts. Since the low point of the gutter 13 is generally also the low point of the enclosure, ports 16 are made in the walls of the casing 2 to discharge the oil coming from said devices and flowing over the inner walls of the enclosure. The discharge holes 16 and 14 are advantageously placed at the greatest radius of the annular casing 2, so that the oil is carried thereto by gravity.

In a first variant, shown in FIGS. 3a to 3c, the ports 16 are made in the walls of the casing 2 on the outside of the annular side walls 11 of the gutter 13 which stop the oil coming from the other devices. Said ports 16 correspond to channels 17 opening into the lubrication enclosure. Said channels 17, advantageously having dedicated pumps, not shown, to which said channels are connected, form means for discharging the oil from devices other than the PGB.

In said first variant, the port 14 of the gutter does not communicate with the port or ports 16 of the casing 2, on the outside of the gutter 13. The channels 15, 17, which are connected respectively to said ports 14, 16, therefore advantageously correspond to independent or separate discharge means. It would be possible to group the channels 15 and 17 together before the connection of the recovery pump.

6

In a second variant, shown in FIGS. 4a to 4c, the ports 16 of the casing 2 on the outside of the gutter are placed in communication with the channel 15 in which the oil coming from the gutter 13 flows. This may be carried out by means of a small collecting cavity 18, opening in the low point of the casing 2, the axial extension of which is greater than the width of the bottom wall 12 of the gutter. The ports 14, 16 in the bottom wall 12 of the gutter and in the casing 2 on the outside of the gutter 13 are formed by the opening of said collecting cavity 18 in the casing 2 and are separated by the side walls 11 of the gutter 13. The channel 15 opens into the bottom of said collecting cavity 18.

It would also be possible for the discharge holes 16 to be located in a different casing from that in which the discharge holes 14 are located. Thus, the oil leaving the PGB would be discharged through the discharge hole 14 which would fall into a region 18, in another casing. In said region 18, the oil from the PGB and from the other elements would be mixed and discharged by means of the channel 15.

This arrangement allows the pumps driving the recovery oil to be made common.

Details of the implementation of the invention have been given in the case of a PGB installed in a turboprop engine, but clearly said invention can be implemented to recover lubricating oil in any rotating device inside an enclosure.

The invention claimed is:

1. A turbine engine module comprising a device arranged so that the lubricating oil escapes therefrom by centrifugation about an axis of rotation, said device comprising at least one rotating portion and a cover rigidly connected to said rotating portion, said cover comprising radial through ports for the passage of the oil escaping by centrifugation and means for guiding the oil leaving said ports radially outwards, and a casing defining at least one portion of a lubrication enclosure of said device, said casing comprising at least one gutter, arranged to recover the oil passing through said radial ports and having a substantially annular shape centred on the axis of rotation, the gutter comprising an annular bottom wall having at least a first discharge port, wherein the casing comprises at least a second discharge port located on the outside of the gutter, and in that said device comprises discharge means, said at least second discharge port and said at least first discharge port being connected to the discharge means that are common

wherein at least one discharge port is located substantially at the lowest point of the gutter.

2. The turbine engine module extending according to claim 1, in which the casing comprises a radially inner face defining a wall of the lubrication enclosure and forming the bottom wall of the gutter.

3. The turbine engine module according to claim 1, in which the gutter comprises two annular side walls which advantageously move away from each other radially outwards.

4. The turbine engine module according to claim 1, in which each radial port of the cover comprises a pipe, intended to form a means for guiding the oil.

5. The turbine engine module according to claim 4, in which the pipes extend radially outwards from the cover and slope in the same transverse plane and in the same direction about the axis of rotation.

6. The turbine engine comprising a module according to claim 1.

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